

Report of the Ethiopian livestock feeds project synthesis workshop, Addis Ababa, 28–29 May 2012



RESEARCH
PROGRAM ON
Livestock and Fish

ILRI PROJECT REPORT



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INTERNATIONAL CENTER FOR AGRICULTURAL RESEARCH IN THE DRY AREAS



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**Australian Centre for
International Agricultural Research**

Report of the Ethiopian livestock feeds project synthesis workshop, Addis Ababa, 28–29 May 2012

William Thorpe
June 2012

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Foreword

This report is an output of a six-month project ‘Fodder and feed in livestock value chains in Ethiopia – trends and prospects’ commissioned by the Australian Centre for International Agricultural Research. The project was led by ILRI together with the Ethiopian Institute for Agricultural Research, the Amhara Regional Agricultural Research Institute and the International Center for Research in the Dry Areas.

The project aimed to develop a preliminary understanding of how feed components of intensifying livestock production systems in Ethiopia are changing as systems intensify and how this is reflected in the feed-related elements of focal value chains. The project outputs included three synthesis reports along with a series of field reports that can be accessed via links in the synthesis reports. This report presents the proceedings of the final synthesis workshop for the project.

Information on the project is online at <http://elfproject.wikispaces.com>

Summary

On May 28-29 2012 the Ethiopian Livestock Feeds Project held a synthesis workshop in ILRI, Addis Ababa. The project team, including the core partners from the Ethiopian Institute of Agricultural Research and the Amhara Regional Agricultural Research Institute, had been working together to refine various tools including FEAST, Techfit and a simple value chain assessment checklist. The suite of tools is designed to help with developing ideas and plans for feed interventions at local level. The workshop reviewed the results from using the tools in the field and assessed the value of, and ways of improving, the tools.

The results showed that the tools are a rapid way of developing a good overview of farming systems and the constraints to improved feeding. However, generating ideas for feed intervention was more challenging. The tools were helpful in guiding thinking, and in ensuring that suggestions for feed improvement took into account system constraints such as land and labour availability, but the tools were not recipes or blue prints. Rather the process of working with the tools in the field can help to arrive at interventions which are more likely to succeed, especially if the tools are applied by research and development staff working closely together and with their clients, the livestock producers, and the other “actors” in the livestock value chains. This participatory application of the tools should result in the improved targeting of feed-based interventions.

Immediate challenges are to establish ways of institutionalizing the application of the tools and to ensure that their refinement is a continuing dynamic process.

Introduction

The ACIAR-funded, ILRI-led Ethiopia Livestock Feeds ([ELF](#)) project held a two-day Synthesis Workshop in late May. Its aim was to:

- Review and refine the experience of using the [VCA](#), [FEAST](#) and [Techfit](#) tools and to draw lessons for their improvement;
- Think about the application of the tools in wider contexts.

The Workshop had two parts: the first, to review amongst the project partners the experiences and lessons learned from the field testing of the tools while considering the other components of the project (Sessions 1 and 2), and the second, to present the summary results to potential clients for the tools and to receive their feedback (Session 3). The potential clients were drawn from the national and international agricultural R&D organizations in Ethiopia. The detailed programme and the list of participants for the Workshop are presented in **Appendices 1** and **2**, respectively, and [on the wiki](#).

In line with the plan developed by the project partners during the Inception Workshop held in February the tools had been tested in value chains for beef, dairy and sheep meat. In each chain tools were tested in two districts (woredas) having a different farming system and within each district at two villages (kebeles), one close to an urban centre and the other more distant.

Preceding the Synthesis Workshop a two-day write-shop of the project partners reviewed and revised the draft reports of the field testing of the tools and, from them, drafted presentations for the Workshop.

Session I: Assessing feed resources and developing improved feeding strategies

In the project activities the field testing of the VCA, FEAST and Techfit tools was complemented by three other components: a “Feed dataset study”; a “Feed resources assessment in the Menz area”; and, a “Desk study of small ruminant feeding strategies”. Along with the tools these were designed to inform the development of feed intervention strategies in value chains benefiting smallholder producers. During the first session of the Workshop their presentation and discussion set the scene for the reporting, during the second session, of the field testing of the tools.

Feed dataset study: The study addressed the project output: “Data-base of price, quality and volume on a seasonal basis for key feeds associated with the target value chains”. The [presentation](#) highlighted the dynamics of smallholder livestock production in Ethiopia, its emerging market orientation, the increasing use of purchased feed and the need for information on feed quality and prices for making decisions to purchase feed ingredients and to formulate balanced diets. The current status of the proposed dataset was presented illustrating how it better organized and refined the information on nutritive value of feeds and provided information on price variability and trends. It was noted that the data set should be further enriched and that it will require updating regularly with current market information that captures seasonal variability.

The discussion asked how the dataset format could be integrated into the existing [Ethiopia market information system](#) and what practical mechanisms could address the wide variability in feed quality and prices amongst locations and seasons. Meantime the emphasis was on developing the dataset in a tabular format to support decision-making at kebele/farm/enterprise level.

Feed resources assessment in the Menz area: The study addressed the project output: “Assessment of feed availability and demand for small ruminant production in Menz area”. The [presentation](#) described the study area, its extensive sheep production systems and the study’s objectives of estimating at the meso-scale feed demand, availability and management, and their potential implications for feed-based interventions. The analysis considered two woredas with livelihood systems based respectively on “Barley, legume, sheep” and “Cereals, legumes, livestock”. The estimates of feed supply and demand drew on land use/cover and livestock data from GIS and other secondary data sources. The

discussion centred on the large negative estimate of feed balance and the high estimate of “over-stocking”, which probably resulted from the imprecision of the data, especially feed supply, errors in biomass and livestock coefficients and issues related to seasonal variation. Estimates more in line with field reality may be possible by estimating available feed supply from current livestock production. It was suggested that a scenario (rather than a feed-balance) approach will be more useful for informing land use and other agricultural policies and strategies.

Desk study of small ruminant feeding strategies: The study addressed the project output: “Synthesis of experiences with successful small ruminant feeding strategies from elsewhere and their local applicability”. The [presentation](#) described the study’s three-pronged approach which combined the project team’s knowledge of current & past R&D activities, an electronic search of global literature and feedback from key informants in the South. The conclusions were consistent with those from the recent FAO electronic conference “*Successes and failures with animal nutrition practices and technologies in developing countries*” in that while there were many theoretical options for improved feeding strategies for small ruminant meat production, there had been limited uptake by smallholders. This highlighted the need for farmer participatory, action-research like that in CIAT’s SE Asia programme. Understanding both livelihood systems, including gender and labour issues, and small ruminant value chains, will be important. Possible entry-points in the production cycle and interactions with, e.g., disease constraints, were discussed. Given current production systems and feed scarcities in Ethiopia and the increasing use of crop residues, it was suggested that “smart feeding” to improve the efficiency of utilization of available feeds, community-based management of common property resources, food-feed crop improvement and planted forages for stall-feeding would be important strategies provided that they were well targeted. The discussion noted some mismatching of planted forages and their production agro-ecology in Eastern Africa and the need for better evaluation and targeting for location specificity.

Session 2: Feed assessment and testing the VCA, FEAST and Techfit tools

The reports of the field testing of the three tools deliver the project output: “Targeted value chain assessment of feed elements of dairy, beef and sheep value chains”. The field testing is also the major contributor to the output “Refined tools for feed resource assessment, value chain analysis, rapid market appraisal and feed technology prioritization”.

The context for the presentation of the reports by the three teams (dairy, beef and sheep) was given in the introduction by the project leader, Alan Duncan. He noted that the VCA, FEAST and Techfit are designed as “discussion tools” that catalyse the interactions of the various actors: research, development, private sector, NGO, etc, with livestock producers. They were not designed to provide recipes or blue prints but to guide and inform enquiry that identifies through participatory approaches options for improving the availability and utilization of feed resources to the benefit of smallholder producers and other actors in the value chain.

During the session each of the teams, Debre Berhan Agricultural Research Center for sheep meat, Debre Zeit for beef and Holetta for milk, presented their results which were discussed in plenary and then the lessons learned were summarized through a SWOT analysis.

Testing the tools in the sheep meat value chain

The [VCA](#) and mapping was carried out in Angolela-Tera district, which produces sheep for slaughter locally and for transport to Addis Ababa (about 100km away) and to export abattoirs. Some sheep were also sold for breeding and rearing/fattening. The team reported that, prior to the study, there was limited information on the sheep and feed value chains and how markets function in the area. Two feed marketing channels were identified, mainly associated with the dairy production in the area: 1. Crop residues purchased for nearby urban dairy production; 2. Concentrates purchased by traders and cooperatives for distribution to farmers for livestock rearing, fattening and dairy. During this VCA exercise it was not possible for the team to quantify flows of sheep or feed.

Amongst the constraints identified within the value chains were poor input services (including training/access to knowledge), high costs of transport, seasonality in the supply and demand for sheep and feed, lack of reliable market information and double taxation during transport for slaughter. The increasingly high demand for sheep meat in the three market channels represented a major opportunity for greater benefits to smallholder producers. Given that the district is drought prone and staple food cropping unreliable, sheep play an important role in buffering household economies. As feed availability largely depends on the season and the land covered by *Meher* or *Belg* season crops, it was concluded that optimal utilization of seasonally available feeds requires the preservation of crop residues and grasses and strategic supplementation with low cost alternatives (which can include planted forages) to satisfy animal requirements for attaining specific production objectives. An important way forward was to equip farmers with the knowledge and innovation skills required to improve their management of crop residues and supplementation.

Building upon the VCA, the feed assessment tool [FEAST](#) was used to characterize the livestock production and feeding systems in Menz and Angolela-Tera Districts and to identify site-specific feed intervention potentials in the surveyed villages. Land sizes and the major crops were similar in the two survey sites but the Angolela-Tera villages had significantly fewer sheep and more improved dairy and local cattle. Grazing and naturally-occurring and collected fodders dominated feed DM in Menz whereas in Angolela-Tera purchased feed and planted forages were also important. In both areas the farmers identified feed shortages followed by animal diseases as the main livestock problems. Their perceived solutions to feed shortage in Menz were: set aside part of the crop land for forages and improve the supply of forage seed; regulate ‘encroachment’ of grazing areas; and, the timely collection and conservation of feed for the dry season. In Angolela-Tera the perceived solutions were: improve availability and access (affordable price) to commercial concentrates; plant more forages; and, limit herd size. In both areas planting forage tree as live fences was seen as an option.

The research team members and their Ministry of Agriculture counterparts appreciated the holistic yet rapid appraisal approach that FEAST supports, its integration of indigenous (participatory) and modern knowledge and methods and its rapid collection, analysis and interpretation of the field data. FEAST was said to be “very friendly” but could be improved by, for example, asking for seasonal rather than monthly estimates of feed availability and use. Other improvements would be accommodating a larger sample size, and/or using data from FGDs (focal group discussions) from two kebeles (villages) in the Excel sheet. The team also questioned using administrative boundaries for studies when AEZs and their production systems would provide more relevant domains for recommendations on agricultural development. Its suitability as a dissemination tool was noted and it was suggested that FEAST and TechFit should be linked.

With the same communities [Techfit](#) was tested for identifying priorities for feed-based interventions for their sheep production. Of 36 technologies, Techfit selected the 15 most applicable to the characteristics of the sample villages. Of these the four villages ranked the selected technologies in more or less similar

order with “home grown legume residue” and the “use of local and bought-in brewery waste” ranked highly followed by “generous feeding and chopping of crop residues”, reflecting the scarcity of land and cash and the availability of family labor. The team concluded that the technology filter and ranking works well but noted that the list of technologies is not exhaustive and, from their perspective, some technologies were too specific. One discussant noted that it appeared that the level of technological complexity was important in the ranking decisions of these communities.

Testing the tools in the beef value chain

The [VCA](#) was carried out in Adama district. It is well known for its smallholder beef fattening. Group discussions were held in Kechema & Kuriftu Wenji villages, which were close and relatively far, respectively, from urban markets. The mapping of the actors, functions & service providers showed three market channels for beef cattle: 1. Purchased by hotels and individual consumers in the Adama area; 2. Transported from Adama to Mojo, Zeway, Bishoftu, Dukem and Addis Ababa consumer markets; 3. Purchased for fattening by farmers of the Adama area. There was a wide range of marketing costs and margins in the channels to the various outlets. Constraints along the beef chain were said to be principally related to production: shortage of feed supply (quantity and quality); high feed cost and low conversion ratio of older animals; lack of awareness about feed formulation; inefficient veterinary services; insufficient provision of credit and problematic collateral arrangements; lack of skills and knowledge. Marketing issues included: the long fasting periods of the Orthodox Christian Church; high marketing margins; lack of chilling facilities; and, fraudulent brokerage in the market-places. Consumption issues related to food safety because of fraudulent slaughter and weak regulatory services (road-side/back-yard slaughter).

Five feed market channels were identified, all serving beef fatteners in the Adama area by supplying: 1. Teff straw from the Debre Zeit area; 2. Grass hay from the Sululta and Sendafa areas; 3. Molasses from Wonji and Metahara sugar factories; 4. Oil cake and flour mill by products; 5. Crop residues - teff and wheat straws and maize stover. Constraints in these market channels were related to shortage of feed supply and the inputs to increase supply (e.g. seeds, conservation practices) and included the seasonality of availability and price; high transport costs; a few actors monopolizing the concentrate feed market; absence of feed quality control in the market; lack of awareness on feed quality and improved feeding practices. The high demand for beef (meat) and for animal feed were seen as major opportunities by the smallholder producers and the results of the VCA and the identified constraints were important lessons for the R&D team. Neither in the beef or feed chains was it possible for the team to estimate quantities moving along the various channels.

To characterize beef production systems with a particular focus on feeding practices, the team applied the [FEAST](#) methodology in the Kechema and Wonji Kuriftu villages of Adama District and in Ali-Wayo and Kersa-Ilala of Arsi Negele District. Household and land sizes and the main crops - teff, wheat, maize

– were similar in each village but unlike the Arsi Negele villages, the Adama villages grew several planted forages and Kuriftu had irrigation. Except in Wonji Kuriftu, labour was an important income source. Most households kept two draught oxen which, when culled, were fattened for slaughter. Crop residues were important feeds and their utilization varied: in Kechema straw was usually fed alone although sometimes mixed with concentrates; in Wonji Kuriftu straw was fed with purchased concentrate, while in both kebeles (villages) in Arsi Negelle district the straw was usually mixed with atela, the by-product of local liquor distilling, and concentrate feed. In all villages the highest ranked constraint was feed scarcity followed by lack of credit/cash or veterinary services. The solutions suggested by the farmers to tackle feed scarcity varied by village: Kuriftu favoured the formation of coops and Kechema and Kersa-Ilala proposed planting forages. There were many mentions of seeking govt support. The team suggested developing least-cost fattening rations and to intensify extension efforts for efficient utilization of available feed resources.

Regarding FEAST, the team highlighted it serving as an efficient experience-sharing platform from which they, the District Agriculture Offices and the Kebele DAs (Development Agents, frontline extension staff) benefited from learning to probe the problems of the farmers. In the same way the participation of the farmers increased their awareness on key issues including accessing input supplies, credit services and market information. Notable was the knowledge, zeal, willingness to learn and active participation of women in the PRA discussions. Previously they had been isolated from community discussions.

With these same communities [Techfit](#) was tested for prioritizing possible feed technology interventions. Group discussions served to combine scores of technology and context attributes to give overall scores for ranking technologies. Nearly a third of the participants were women. Highest ranked were crop residue (CR) technologies and practices: 1. Machine chopping; 2. Generous feeding; Hand chopping; 4. Feeding of home grown legume residues, highlighting the key role of CRs in fattening and the importance of labour demands. The team concluded that Techfit helps identify promising feed technologies that are likely to work and that it improves our understanding of why technologies work or do not work.

Testing the tools in the fluid milk value chain

The [VCA](#) of the fluid milk and feed chains was carried out in Wolmera district within the Addis Ababa milk shed. Dairy is important to smallholder livelihoods in Wolmera which is served by various outlets for liquid milk: cooperative unions, processors and private traders. The analysis identified three marketing channels: 1. All milk retained for home consumption; 2. Milk reaching consumers through the informal market; 3. Milk reaching the consumers through formal marketing. Important production constraints included: high investment and feed costs; lack of awareness about feed formulation; low cattle productivity; limited AI and dairy stock; inadequate veterinary services; lack of training in production and management. Processing constraints included: shortage and seasonality of raw milk supply and its poor

quality; low technical skill of staff; and, high cost of packaging. Marketing constraints were: poor road infrastructure and high transport costs; lack of chilling facilities by most traders; poor milk packing and handling. Issues related to consumption were: the assumption that milk is meant only for children; its high price; consumers' lack of knowledge about milk quality and the poor enforcement of milk quality standards; and, as with meat, the long fasting period of the Orthodox Christian church.

Three feed market channels were identified: 1. All feed produced and retained for own consumption; 2. Feed supplied by traders; 3. Feed reaching terminal markets with/without coops/unions. Feed production was said to be constrained by lack of training on forage production and pasture management and shortage of seed and other planting materials. Agro-industries and feed processing plants were limited by shortage of raw materials (implying over-capacity and/or low crop yields). Taxation on feed was said to affect processing. Lack of feed quality control was cited as a processing and marketing constraint and dairy producers reported adulteration of feeds, yet a lack of understanding of feed quality was also noted. And, as for the other livestock product chains, high transport costs and seasonality in availability and price of feed and a few actors monopolizing the concentrate feed market were important factors affecting feed marketing in this area where fluid milk is marketed.

Against this background the team noted the suitable agro-ecology for dairy and feed production, the high domestic and export demand for milk and feed and the large number of emerging dairy and feed processing industries. Regarding how useful was the VCA, the team concluded that it requires a well-organized group and adequate time to understand the complexity of the various market channels. In addition the team considered that the feed and dairy value chains should be studied independently with their own VCA checklist.

The application and testing of [FEAST](#) to rapidly assess livestock production systems and their feed resource bases was carried out in Wolmera (as for the VCA) and Wuchale Districts. In each District two villages were selected, one with mainly local cattle and the other with mainly improved crossbred (dairy) cattle. In Wolmera Berfeta Tokkoffa (local) had larger landholdings than Robe-Gebya (crossbred); in the former, horticulture contributed most to livelihoods while in the latter it was dairy. In Berfeta Tokkoffa (BT) holdings of draught and fattening cattle were nearly twice those in Robe-Gebya (RG). Purchased feeds were reported to comprise about half of annual feed DM in BT; by contrast cultivated forages and grazing were the major feed sources in RG. As a result, whereas feed shortage (quality and quantity) was reported as the first constraint in BT and planting forages was the proposed solution, RG reported low milk price and the high cost of milk production and, to overcome those problems, it proposed organizing farmers to transport their milk to the terminal market, Addis Ababa.

In Wuchale District, Mechela-Wertu (MT) village had 40% of landless households, many more than in Bosoka-Jate (BJ) village. In the former, fattening cattle and in the latter dairy contributed most to livelihoods with livestock holdings reflecting that. Perhaps surprisingly the proportion of feeds to annual DM were similar in both villages with, in order, crop residues (CR), planted forage, grazing and

purchased feed, although BJ used proportionally more CR. The pair-wise ranking of problems by the MT farmers had the high cost and poor quality of supplementary feed first, while BJ ranked it second after low milk price. MT ranked animal health problems and a lack of veterinary services second and both villages ranked inadequate AI service and lack of improved breeds next.

BJ proposed to address the low milk price by organizing farmers to transport their milk to Addis Ababa, while both villages proposed increasing biomass yield by using planted forage crops and MT considered improving the feeding value of crop residues its first priority.

Implementing FEAST was considered an important, time-efficient learning process for the team in support of designing intervention strategies to optimize feed utilization. The team thought that the tool could give results that were more representative if more key informants were involved and if the FEAST structure and questions were further improved. Based upon their experiences with FEAST and its results, they stressed the importance of strengthening the linkages between research, extension and farmers and the capacity of cooperatives, unions and AI and health delivery services at village level. Linked to that should be adequate farmer training on disease prevention, feed management and record keeping. For feeds, they recommended the introduction of simple processing technologies to improve the quality of existing feed and the planting of forage to increase quantity and quality. Finally they highlighted the need for sustainable access to formal milk markets.

Continuing with the four village groups, the team applied the [Techfit](#) tool to prioritize feed technologies with these smallholder dairy producers. The Techfit process selected five to eight top-ranking technologies for each of the villages. Land and labour requirements were major determinants such that technologies with high context relevance, but which required more land and labour, ranked lower. The findings highlighted some apparent anomalies, e.g. the ranking of local brewery waste vs native hay at Wuchale, and that some farmer indigenous practices merit inclusion in the list of technologies, e.g. re-threshing and mixing of crop residues and the use of oats grain and hull as an alternative to wheat bran.

Based on these experiences the team suggested that, given farmers' contexts varied greatly within a woreda and a village, technologies should be screened accordingly. In addition it was suggested that more attention should be given to the technology pre-filter process and technologies clustered and ranked within their clusters. The high ranking technologies from each cluster could then be subjected to pair-wise ranking by farmers for targeting interventions. Finally it was noted that Techfit requires the variable set for carrying out cost-benefit analysis on the short-listed technologies.

Strengths and weaknesses of the VCA, FEAST and Techfit:

Following the presentation and discussion of the results of the testing of the tools in the three livestock product value chains, breakout groups by tool –VCA, FEAST and Techfit, and a group addressing their integration and synergies, were asked to list the strengths and weaknesses of the tools. The group outputs were discussed and revised in plenary and are listed here.

VCA Value Chain Assessment (version as at May 15th)

Strengths

Connects demand with supply

Holistic problem identification along the whole production to consumption VC: all actors

Inclusive

Inter-disciplinarity

Time-saving; quick fix; quick problem analysis

Can be done with less expertise

Weaknesses

Can it capture the dynamism?

It was not specific to a commodity (sheep meat, beef, dairy, etc) [this can be a plus!]

Difficult-to-remember answers to trend questions

Feed VC should have been studied separately

Sensitive economic data hard to get (e.g. from farmers)

Opportunities to use

Flexible tool - few or more human resources needed

Can dig out opportunities and constraints as well as feasible interventions

FEAST Feed Assessment Tool (Version as at May 15th)

Strengths

First such tool
It's systematic
Addresses 'Farmer problems', presents 'farmer solutions'
Captures livelihood issues
Facilitates participation and guides comprehensively discussion
It's rapid (takes up little of the farmers' time)
Offers the opportunity for farmers to learn
Adaptable across livestock value chains (PRA)

Weaknesses

It is knowledge intensive (needs experts)
Sample size is too small (number of farmers)
Allows data input from a max of 6 individuals
Productivity parameters limited to milk?
Lack of clarity on spatial scale
When presenting results, tendency to overlook PRA results in favour of excel outputs

Opportunities to use

Needs to be adapted to pig/small ruminant value chains
Relate constraints to production factors
Could collect more individual data through group facilitation (farmers facilitated to fill individual questions)
Enhanced promotion and training on the tool (especially development partners)
Can be used to capture past development activities, their scope/successes/failures; explore potential linkages

TECHFIT (Version as at May 15th)

Strengths

A rapid, comprehensive tool
Filters technologies according to contexts of the farmer
Lists most feed technologies
Considers most limiting factors, e.g. land
Puts feed in a broader context
Helps to systematize short-listing of technology options

Weaknesses

Does not consider water availability
Scoring may mask some potential technologies
Narrow scoring range for attributes and contexts (1-3 only)
Gives equal weights to all attributes
Not yet complete, also the cost benefit tool

Opportunities to use

Wide context range = wider application
Wide technology range = wide application across AEZ
Use crowd-sourcing for populating technology list

Scope for cross-tool integration

The group was asked to explore synergies, contradictions and opportunities among and across the tools

VCA - wider framework, where feed fits/ market and farm level

VCA - more time-consuming, dynamic

FEAST - farmer perspective / farm level; quick-and-dirty and cost effective

Techfit - expert perspective / farm level

Techfit - involve farmers in technology scoring?

Apparent advantages to applying sequentially, VCA -> FEAST -> Techfit:

Opportunities

Ethiopian group members were asked “Will you use the tools again?” They answered: maybe; depending on fitting in with other responsibilities; priorities often set nationally; we are very much working at on-station/on-farm level so are not involved in these higher level tools.

The lessons from the field-testing, the feedback from the breakout groups and the plenary discussion highlighted the positive responses from the application of the three tools and their stimulation of productive interactions amongst livestock producers, other actors in the three livestock-product value chains and the R&D staff. The discussion noted how the tools could be further strengthened and refined and it pointed out the challenges faced in incorporating their use as an integral part of R&D activities supporting smallholder livestock development and feed-based interventions.

Session 3: Feedback from potential clients

The final session of the Workshop continued the discussion on learning lessons from the field testing of the tools. A group of potential clients from national and international agricultural R&D organizations in Ethiopia were asked for their feedback on the utility of the tools and the application of the tools in wider contexts. After an introduction to the tools, examples of their application were presented and the invited “clients” were invited to comment.

In his [introduction](#) Alan Duncan re-iterated the aims of the ELF project and explained the roles of VCA, FEAST and Techfit and how they supported discussion with farmers to identify options for improving the availability and utilization of feed resources. Using the tools produces: ‘ideas for some promising feed interventions that might work’ and ‘a better understanding of why the usual suspects often don’t work’.

He emphasized that feed promotion and intervention under business as usual is not promising and that R&D needed smarter targeting, more acknowledgement of context and more engagement with farmers and other value chain actors. The VCA, FEAST and Techfit tools can support this shift in R&D support to smallholder livestock producers.

Drawing on the presentations from Session 2, a [summary report](#) of the application of the tools was given by the Debre Berhan team (sheep meat) for VCA, by the Holetta team (dairy) for FEAST and by the Debre Zeit team (beef) for Techfit.

Feedback on the tools and their application began with the Director of a large development project (LIVES) which supports market-oriented smallholder livestock production. He queried if the application of the tools as presented had differentiated sufficiently final markets and feed requirements and issues within production cycles, e.g. ewe infertility, pre-weaning mortality and slow growth rates. He also suggested that the process should analyse more deeply the institutional environment, e.g. aspects of farmer capacity-building, and capture details of current farmer practices, e.g. use of fertilizers as nutrient sources.

The head of a forage genetic resources programme was impressed by the quantity of data provided by the field process and asked about the teams’ prior knowledge of the “sites”. She had concerns about sample sizes, possible negative group dynamics and the scoring range and ranking of the attributes in

Techfit. And she doubted that issues related to seasonality were captured and addressed adequately. Her final question related to how the process would tackle non-feed issues.

The Director of national livestock research also had concerns about how to address feed seasonality, and issues related to differentiating between local and export markets. The latter concern was linked to his worries about the broad nature of the attributes function in Techfit, especially that for the market.

The leader of an international R4D livestock programme congratulated the ELF team on the various outputs and picked up the point from the Debre Berhan presentation on the importance of spatial variation even within kebeles/villages and, therefore, the challenge of defining recommendation domains. In the same way, how could we strengthen the trend analysis and complement the data from farmer recall. She noted that improved methods were also required to address the relative feasibility of resolving the identified constraints.

A commercial feed manufacturer liked the holistic approach and the wide application but suggested that issues related to commercial feeds, especially transport, needed more attention.

The head of livestock at a regional agricultural research institute emphasized the importance of capturing lessons from the past and temporal components. He was comfortable with the tools and their application at the grassroots and to support the design of development projects but, along with other potential clients, asked how this would be done?





After noting that there was much more detail in their full written reports, respondents from the teams clarified issues related to the process and interactions with farmers (men and women) and the other actors in the value chains ([see the final session notes](#)). It was noted that this is a work-in-progress and that the three tools need further refinement to include, for example, ways to better capture the challenges of seasonality and institutional issues.







Wrapping up the discussion, the session and the Workshop, Alan Duncan thanked the invitees for their valuable feedback. He commented that the reflections on context specificity - contrasting kebeles/villages in a woreda/district – and the variation amongst households, highlighted the need for more engagement with farmers and the other actors in livestock-product value chains. The field-testing had confirmed that the suite of tools provided a useful diagnostic approach that can lead to action through the better targeting of feed-based interventions. Therefore, immediate challenges are to establish ways of institutionalizing the application of the tools and ensure that their refinement is a continuing dynamic process.




Appendix I.

Synthesis Workshop Programme

Day I

Time	Topic	Responsible
08:30	Registration	Tiruwork Melaku
09:00	Welcome and reminder of project outline  elf_synthesis_alan.pptx Details Download 204 KB	Alan Duncan
09:15	Ice breaker	Peter Ballantyne
09:30	Feed database study  elf_synthesis_adugna.ppt Details Download 692 KB	Adugna Tolera
09:45	Feed resource base study  elf_synthesis_amare.pptx Details Download 348 KB	Alan Duncan/Amare
10:00	Feeding strategies desk study  elf_synthesis_bill.ppt Details Download 244 KB	Bill Thorpe
10:15	Coffee	

Time	Topic	Responsible
10:45	<p>Debre Berhan results highlights - VCA, FEAST, Techfit</p>  <p>db-feast.pptx Details Download 657 KB</p>  <p>db-vca.pptx Details Download 1 MB</p>  <p>db-techfit.pptx Details Download 88 KB</p>	Solomon Gizaw and team
11:30	<p>Debre Zeit results highlights - VCA, FEAST, Techfit</p>  <p>dz-feast.ppt Details Download 2 MB</p>  <p>dz-vca.ppt Details Download 2 MB</p>  <p>dz-techfit.ppt Details Download 2 MB</p>	Solomon Mengistu and team

Time	Topic	Responsible
12:15	<p>Holetta results highlights - VCA, FEAST, Techfit</p>  <p>holeta-feast.ppt Details Download 1 MB</p>  <p>holeta-vca.ppt Details Download 481 KB</p>  <p>holeta-techfit.ppt Details Download 377 KB</p>	Liyusew Ayalew and team
13:00	Lunch	
14:00	Quick identification of Feed priority areas SWOt on the tools: VCA , FEAST , Techfit , cross-tool integration	Peter Ballantyne
15:00	Coffee/tea	
15:30	Reporting back from the SWOT and plenary discussion on key lessons	Bill Thorpe
16:30	Planning "show and tell" for Tue afternoon - deciding on program	Alan Duncan
17:00	Close	

Day 2

Time	Topic	Responsible
09:00	Welcome and clarification of tasks	Alan Duncan
09:15	Group work to develop presentation	Peter Ballantyne
10:15	Coffee/tea	
10:30	Continue group work	Peter Ballantyne
11:30	"Top and tail" review of presentations	Peter Ballantyne
12:30	Lunch	
13:30	Introduction to project for external participants	Alan Duncan
13:45	Summary presentation by the three teams Feedback/discussion with external people	Peter Ballantyne
15:30	Close	

Appendix 2

Core participants (Mon and Tue morning)

Solomon Gizaw (ARARI Debre Birhan)
Beneberu Tefera (ARARI Debre Birhan)
Aschalew Tsegahun (ARARI Debre Birhan)
Lema Woldemichae (ARARI Debre Birhan)
Shenkute Gosheme (ARARI Debre Birhan)
Liyusew Ayalew (EIAR Holetta)
Gezahegn Kebede (EIAR Holetta)
Fekede Feysa (EIAR Holetta)
Getu Kitaw (EIAR Holetta)
Solomon Mengistu (EIAR Debre Zeit)
Adissu Aberra (EIAR Debre Zeit)
Solomon Abiye (EIAR Debre Zeit)
Fentahun (EIAR Debre Zeit)
Abate Tedla (ILRI, national consultant)
Adugna Tolera (ILRI, national consultant)
Getachew Legesse Feye (ILRI, national consultant)
Jane Wamatu (ICARDA)
Peter Ballantyne (ILRI)
Aynalem Haile (ICARDA)
Ben Lukuyu (ILRI)
Danilo Pezo (ILRI)
Alan Duncan (ILRI)
Bill Thorpe (ILRI, consultant)

External participants (Tue afternoon)

Azage Tegegne (ILRI, LIVES Project Manager)

Barbara Rischkowsky (ICARDA Farming Systems Group leader)

Tom Randolph (CGIAR Livestock and Fish Director)

Alexandra Jorge (ILRI Forage Diversity Programme leader)

Getnet Assefa (Ethiopian Institute of Agricultural Research, Livestock Director)

Carl Birkelo (ACDI-VOCA Feeds Project, Ethiopia)

Beruk Yemane (Ethiofeeds, a commercial feed company).



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